



39 (UPPER: SEQ ID NO.: 1)  
19 (LOWER: SEQ ID NO.: 4)

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GAATCCCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAAACC

TTCCCTTCACTACAAAACCTTCATTGCTTGGCCAAAAGAGAGTTAATTCAATGTAGACAT

CTATGTAGGCAATTAAAAACCTATTGATGTATAAAACAGTTTGCATTTCATGGAGGGCAAC

TAAATACATTCTAGGACTTTATAAAAGATCACTTTTATTATGCACAGGGTGGAACAAG

ATGGATTATCAAGTGTCAGTCCAATCTATGACATCAATTATTATACATCGGAGCCCTGC  
M D Y Q V S S P I Y D I N Y Y T S E P C

FIG. 1A-1

CAAAAATCAATGTGAAGCAAAATCGCAGCCCGCCTCCTGCGCTCCTACTCACTGGTG 359  
 Q K I N V K Q I A A R L L P P L Y S L V 119  
  
 TTCATCTTTGGTTTGTGGCAACATGCTGGTCATCCTCATCCTGATAAACTGCAAAAGG 419  
 F I F G F V G N M L V I L I L I N C K R 139  
  
 CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTCTGACCTGTTTTCCTT 479  
 L K S M T D I Y L L N L A I S D L F F L 159  
  
 CTTACTGTCCCTTCTGGGCTCACTATGCTGCGCCCGAGTGGGACTTTGGAAATACAATG 539  
 L T V P F W A H Y A A A Q W D F G N T M 179  
  
 TGTCAACTCTTGACAGGCTCTATTTTATAGGCTTCTTCTCTGGAATCTTCTTCATCATC 599  
 C Q L L T G L Y F I G F F S G I F F I I 199  
  
 CTCCTGACAAATCGATAGGTACCTGGCTGTGTCATGCTGTGTTTGCTTTAAAGCCAGG 659  
 L L T I D R Y L A V V H A V F A L K A R 219  
  
 ACGGTCACCTTTGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGCTGTGTTTGGCTCT 719  
 T V T F G V V T S V I T W V V A V F A S 239  
  
 CTCCTCAGGAATCATCTTTACCAGATCTCAAAAGAAGTCTTTCATTACACCTGCAGCTCT 779  
 L P G I I F T R S Q K E G L H Y T C S S 259  
  
 CATTTTCCATACA  
 H F P Y

FIG. 1A-2

GAATCCCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGGAAGCTAGCAGCAAACC	59 (UPPER: SEQ ID NO.: 2)
	19 (LOWER: SEQ ID NO.: 5)
TTCCCTTCACTACAAAACCTTCATTGCTTGGCCAAAAGAGAGTTAATTCAATGTAGACAT	119
	39
CTATGTAGGCAATTAAAAACCTATTGATGTATAAAACAGTTTGCAATTCATGGAGGGCAAC	179
	59
TAAATACATTCTAGGACTTTATAAAAGATCACTTTTATTATGCACAGGGTGAACAAG	239
	79
ATGGATTATCAAGTGTCAAGTCCAAATCTATGACATCAATTATTATACATCGGAGCCCTGC	299
M D Y Q V S S P I Y D I N Y Y T S E P C	99

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FIG. 1B-1

CAAAAATCAATGTGAAGCAAATCGCAGCCCGCCTCCTGCCTCCGCTCTACTCACTGGTG 359  
 Q K I N V K Q I A A R L L P P L Y S L V 119  
  
 TTCACTTTGGTTTGTGGCAACATGCTGGTCACTCCTCATCCTGATAAACTGCAAAAGG 419  
 F I F G F V G N M L V I L I L I N C K R 139  
  
 CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTCTGACCTGTTTTCCTT 479  
 L K S M T D I Y L L L N L A I S D L F F L 159  
  
 CTTACTGTCCCTTCTGGGCTCACTATGCTGCGGCCCGCAGTGGGACTTTGGAAATACAATG 539  
 L T V P F W A H Y A A A Q W D F G N T M 179  
  
 TGTCAACTCTTGACAGGGCTCTATTTTATAGGCTTCTTCTGGAATCTTCTTCATCATC 599  
 C Q L L T G L Y F I G F F S G I F F I I 199  
  
 CTCCTGACAAATCGATAGGTACCTGGCTGTGCTCCATGCTGTGTTGCTTTAAAGCCAGG 659  
 L L T I D R Y L A V V H A V F A L K A R 219  
  
 ACGGTCACCTTTGGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGCTGTGTTGCGTCT 719  
 T V T F G V V T S V I T W V V A V F A S 239  
  
 CTCCTCAGGAATCATCTTTACCAGATCTCAAAAGAGGTCTTCATTACACCTGCAGCTCT 779  
 L P G I I F T R S Q K E G L H Y T C S S 259  
  
 CATTTTCCATACAGTCAGTATCAATTCTGGAAGAATTTCAGACATTAAAGATAGTCATC 839  
 H F P Y S Q Y Q F W K N F Q T L K I V I 279

FIG. 1B-2

TTGGGCTGGTCCTGCCGCTGCTTGTCATGGTCATCTGCTACTCGGAATCCTAAAACT 899  
 L G L V L P L L V M V I C Y S G I L K T 299  
 CTGCTTCGGTGTGAAATGAGAAGAGAGGCACAGGGCTGTGAGGCTTATCTTCACCATC 959  
 L L R C R N E K K R H R A V R L I F T I 319  
 ATGATTGTTTATTTCTCTTCTGGGCTCCCTACAACATTGTCCTTCTCCTGAACACCTTC 1019  
 M I V Y F L F W A P Y N I V L L L N T F 339  
 CAGGAATTCTTTGGCCTGAATAATTGCAGTAGCTCTAACAGGTTGGACCAAGCTAIGCAG 1079  
 Q E F F G L N N C S S S N R L D Q A M Q 359  
 GTGACAGAGACTCTTGGGATGACGCACCTGCTGCATCAACCCCATCATCTATGCCCTTGTGTC 1139  
 V T E T L G M T H C C I N P I I Y A F V 379  
 GGGGAGAAGTTCAGAAACTACCTCTTAGTCTTCTTCCAAAGCACATTGCCAAACGCTTC 1199  
 G E K F R N Y L L V F F Q K H I A K R F 399  
 TGCAAAATGCTGTTCTATTTCCAGCAAGAGGCTCCCGAGCGAGCAAGCTCAGTTTACACC 1259  
 C K C C S I F Q Q E A P E R A S S V Y T 419  
 CGATCCACTGGGGAGCAGGAAATATCTGTGGGCTTGTGACACGGACTCAAGTGGGCTGGT 1319  
 R S T G E Q E I S V G L \* 439  
 GACCCAGTCAGAGTTGTGCACATGGCTTAGTTTTTCATACACAGCCTGGGCTGGGGTNGG 1379  
 459  
 TTGGNNGAGGTCITTTTTTAAAGGAAGTTACTGTATTAGAGGGTCTAAGATTTCATCCATT 1439  
 479  
 TATTGGCATCTGTTTAAAGTAGATTAGATCCGAATTC

FIG. 1B-3

GAATCCCCAACAGAGCCAAGCTCTCCATCTAGTGGACAGGAAGCTAGCAGCAAACC	59 (UPPER: SEQ ID NO. 3)
	19 (LOWER: SEQ ID NO. 6)
TTCCCTTCACTACAAACTTCATTGCTTGCCCAAAAGAGAGTTAATTCATGTAGACAT	119
	39
CTATGTAGGCAATTAAACCTATTGATGTATAAAACAGTTTGCAATTCATGGAGGGCAAC	179
	59
TAAATACATTCTAGGACTTTATAAAAGATCACTTTTATTATGCACAGGGTGAACAAG	239
	79
ATGGATTATCAAGTGCAAGTCCAATCTATGACATCAATTATTATACATCGAGCCCTGC	299
M D Y Q V S S P I Y D I N Y Y T S E P C	99

FIG. 1D-1

359	CAAAAAATCAATGTGAAGCAAAATCGAGCCCGCCTCCTCGCTCCTACTCACTGGTG
119	Q K I N V K Q I A A R L L P P L Y S L V
419	TTCATCTTTGTTTGTGGGCAACATGCTGGTCATCCTCATCCTGATAAACTGCAAAAGG
139	F I F G F V G N M L V I L I L I N C K R
479	CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTCTGACCTGTTTTCCTT
159	L K S M T D I Y L L N L A I S D L F F L
539	CTTACTGTCCCTTCTGGGCTCACTATGCTGCCGCCAGTGGACTTTGGAATACAATG
179	L T V P F W A H Y A A A Q W D F G N T M
599	TGTCAACTCTTGACAGGGCTCTATTTATAGGCTTCTCTCGGAATCTTCTTCATCATC
199	C Q L L T G L Y F I G F F S G I F I I
659	CTCCTGACAAATCGATAGGTACCTGGCTGTCGTCATGCTGTGTTGCTTTAAAGCCAGG
219	L L T I D R Y L A V V H A V F A L K A R
719	ACGGTCACCTTTGGGGTGGTGACAAGTGTGATCACTTGGGTGGTGGCTGTGTTGCGTCT
239	T V T F G V V T S V I T W V V A V F A S
779	CTCCCAGGAATCATCTTTACCAGATCTCAAAAGAGGTCTTTCATTACACCTGCAGCTCT
259	L P G I I F T R S Q K E G L H Y T C S S
839	CATTTCCATACATTAAAGATAGTCATCTTGGGGCTGGTCTGCCGCTGTTGTCAATGT
279	H F P Y I K D S H L G A G P A A A C H G

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FIG. 1D-2

CATCTGCTACTCGGAATCCTAA	899
AACTCTGCTTCGGTGTGAAATGAGAA	299
AGGCA	
H L L G N P K N S A S V S K *	
CAGGGCTGTGAGGCTTATCTTC	959
CACCATCATGATTGTTTATTTCT	319
CTCTGCGGCTCCCTA	
CAACATTGTCTCTCTGAAACAC	1019
CTTCCAGGAATCTTTGGCCTGAATA	339
ATTGCAGTAG	
CTCTAACAGGTGGACCAAGCTAT	1079
GCAGGTGACAGAGACTCTTGGGAT	359
GACGCACTGCTG	
CATCAACCCCATCATCTATGCCT	1139
TTGTGCGGGAGAAAGTTCAGAA	379
AACTACCTCTTAGTCTT	
CTTCCAAAGCACATTGCCAAACG	1199
CTTCTGCAATGCTGTTCTATTT	399
TCCAGCAAGAGGAGGAGGAGG	1259
AGGAGGAGGAGGAGGAGGAGG	419
AGGAGGAGGAGGAGGAGGAGG	
CTTGTGACACGGACTCAAGTGG	1319
CTGGTGTGACCCAGTCAGAGTT	439
GTGCACATGGCTTAGTT	
TTCATACACAGCCTGGGCTGGG	1379
GTNGGTTGGNNGAGGCTTTTT	459
TAAAGGAAGTTACT	
GTTATAGAGGCTAAGATTCA	1439
TCCATTTATTTGGCATCTGT	479
TTAAAGTAGATTAGATCC	

GAATTC

FIG. 1D-3





CCR5	YTCSSHPY	QYQF	WKNFQTLKI	V	ILGLVLP	LLVMVICYS	GILKTL	RCRNEK	KRRHRA	VLIFT	MIVYEL	FWAP	YNIVLL	LLNT	TFQEFF	GLN	<b>NC</b>	272						
hCC-R2b	YVCGPY	FPRG	...	WNNFHT	IMRNIL	GLVLP	LLVMVICYS	GILKTL	RCRNEK	KRRHRA	VLIFT	MIVYEL	FWAP	YNIVLL	LLNT	TFQEFF	GLN	280						
hCC-R3	TLCSAL	YPED	TVYSMR	HHHTIR	MTIF	CLVLP	LLVMAI	CYTGI	IKTL	RCPS	KKK	YKAR	LI	FVIM	AVFF	FWTP	YNVA	LLSS	YQSIL	FGND	276			
hCC-R1	HTCSL	HFP	HESL	REWK	LFQ	ALKL	NLFG	LVPL	VMIL	CYTGI	IKTL	RRP	NEKK	SKAV	RLIF	VIMI	IFFL	FWTP	YNLT	ILIS	VFQD	FLF	THEC	276
hCC-R4	TYCKTK	YSL	<b>NST</b>	TKW	VLS	LEIN	ILGLV	PLG	MLFC	YSMI	IRTL	QHCK	NEKK	NKAV	KMI	FAVV	VLFG	FWTP	YNIV	LFET	LV	LEVI	QDC	279

**VI**

**V**

CCR5	SSS	NR	LDQ	AMQ	VTET	LG	MT	HCC	IN	PII	YAFV	GKFR	NYLL	VFFQ	KHIA	KR	FC	KCC	SIF	Q	Q	E	A	P	E	R	A	S	S	V	T	R	S	T	G	E	O	E	I	S	V	G	L	352																																		
hCC-R2b	ESTS	Q	L	D	Q	A	T	Q	V	T	E	T	L	G	M	T	H	C	C	I	N	P	I	I	YAFV	GKFR	RYLS	V	V	F	R	K	H	I	T	K	R	FC	K	Q	C	P	V	E	Y	R	E	T	V	D	G	V	T	S	T	N	I	P	S	T	G	E	O	E	V	S	A	G	L	360								
hCC-R3	ERSK	H	I	D	L	V	M	I	V	T	E	V	I	A	S	H	C	C	M	N	P	I	I	YAFV	GKFR	KYL	R	H	F	F	H	R	L	L	M	H	L	G	R	I	P	F	L	P	S	E	K	L	E	R	T	S	S	V	S	P	S	T	A	E	P	E	L	S	I	V	F	355										
hCC-R1	EQSR	H	I	D	L	V	M	I	V	T	E	V	I	A	S	H	C	C	M	N	P	I	I	YAFV	GKFR	KYL	R	Q	L	F	H	R	R	V	A	V	H	L	V	M	L	P	F	L	S	V	D	R	L	E	R	V	S	S	T	S	P	S	T	G	E	H	E	L	S	A	G	F	355									
hCC-R4	TFEY	R	I	D	V	A	I	Q	A	T	E	T	L	A	F	V	H	C	C	L	N	P	I	I	YF	E	L	G	E	K	F	R	K	V	I	L	Q	L	F	K	T	C	R	G	L	F	V	I	Q	Y	C	G	L	I	Q	I	Y	S	A	D	T	P	S	S	Y	T	Q	S	T	M	D	H	L	H	D	A	L	360

**VII**

**FIG. 2B**

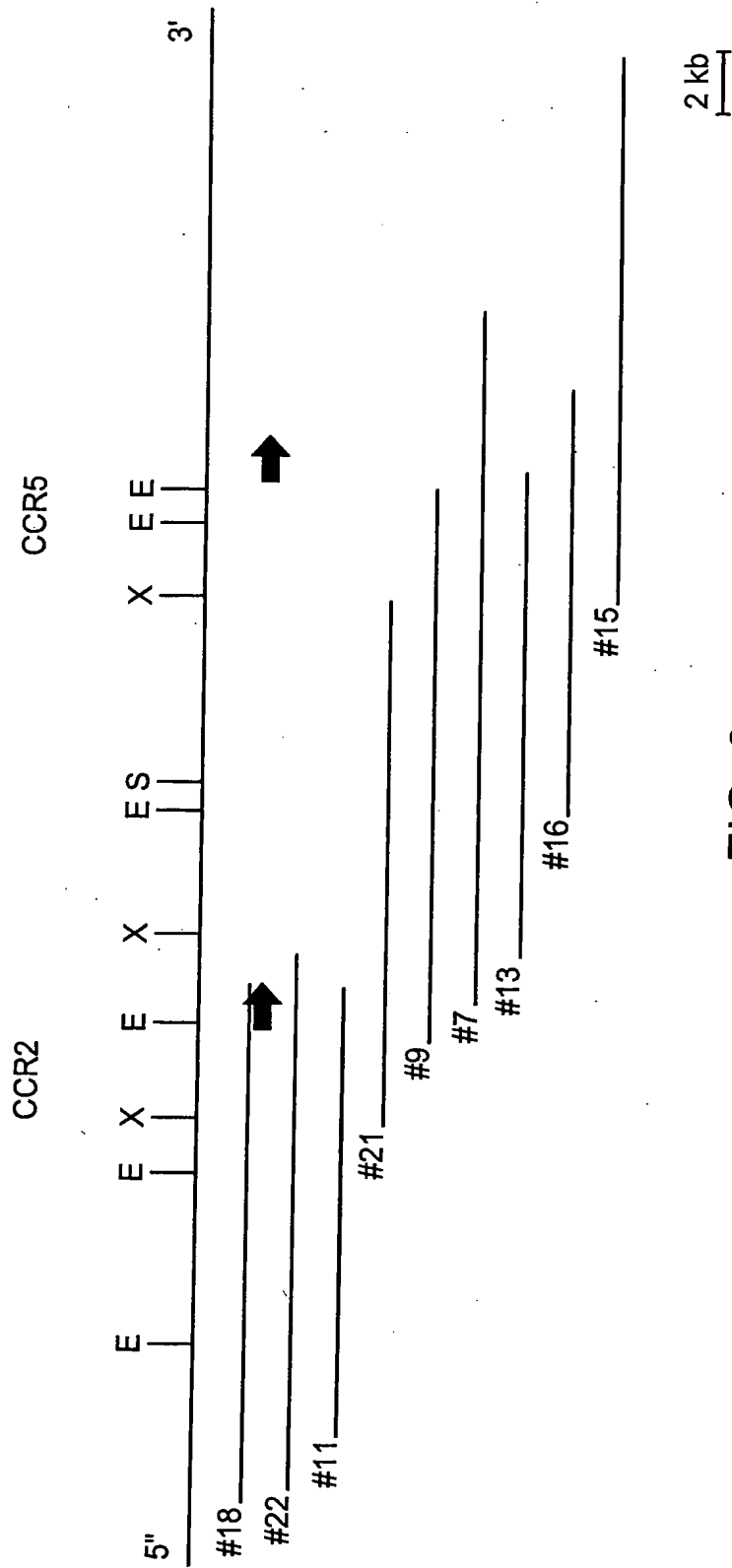


FIG. 3

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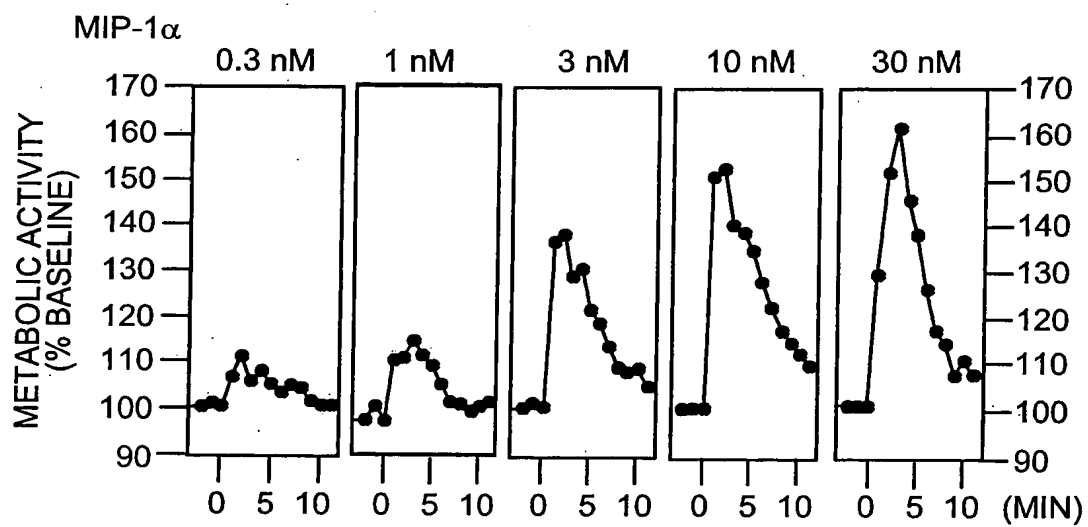


FIG. 4A

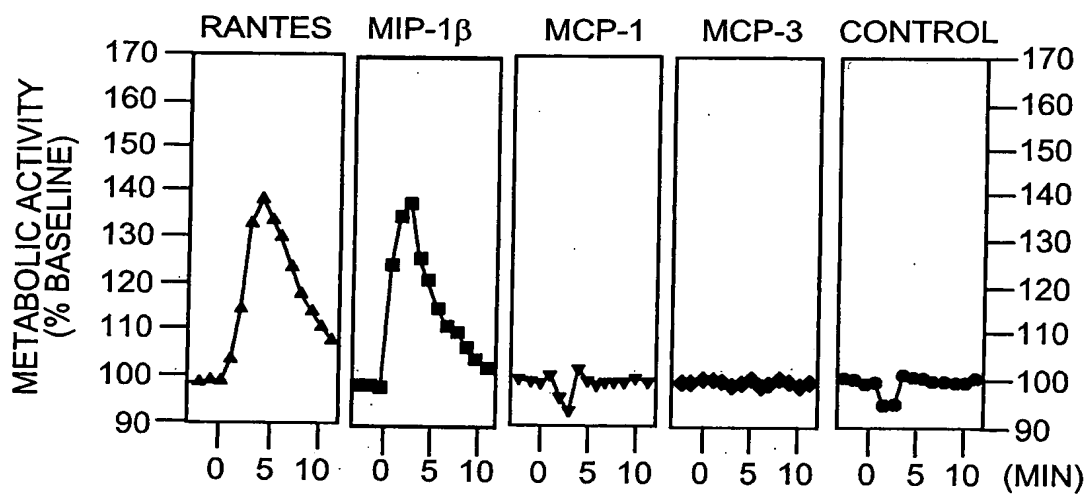


FIG. 4B

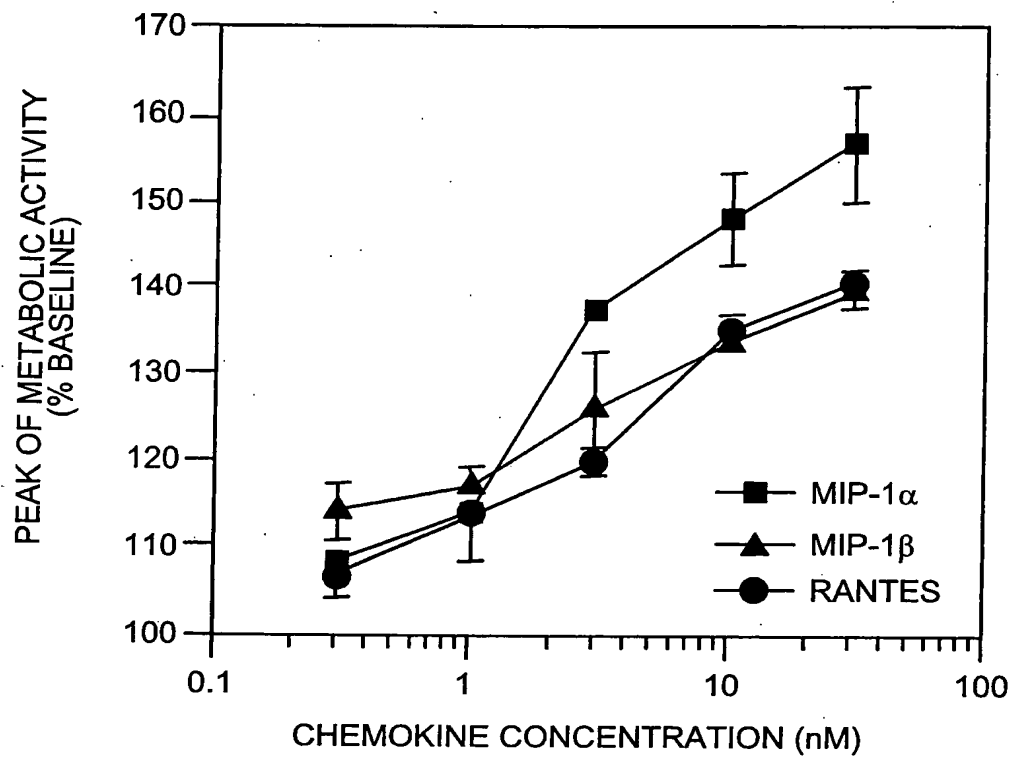


FIG. 4C

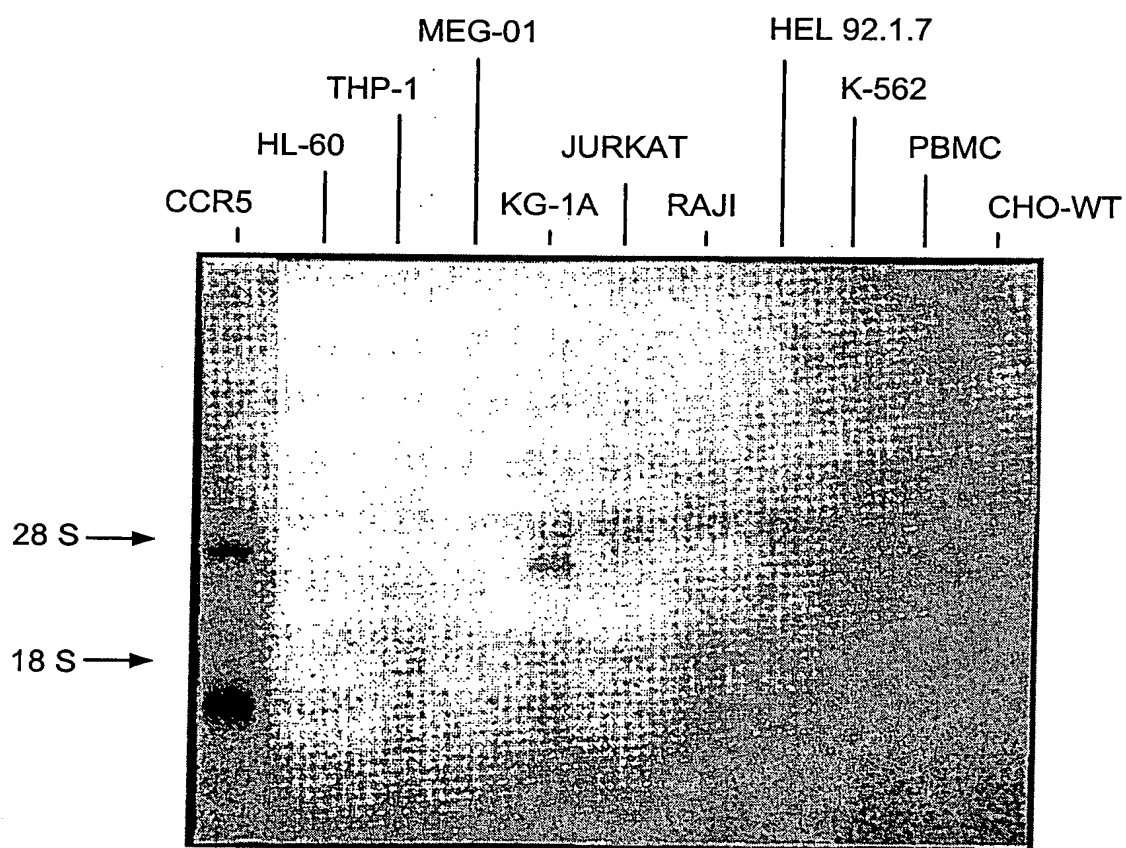


FIG. 5

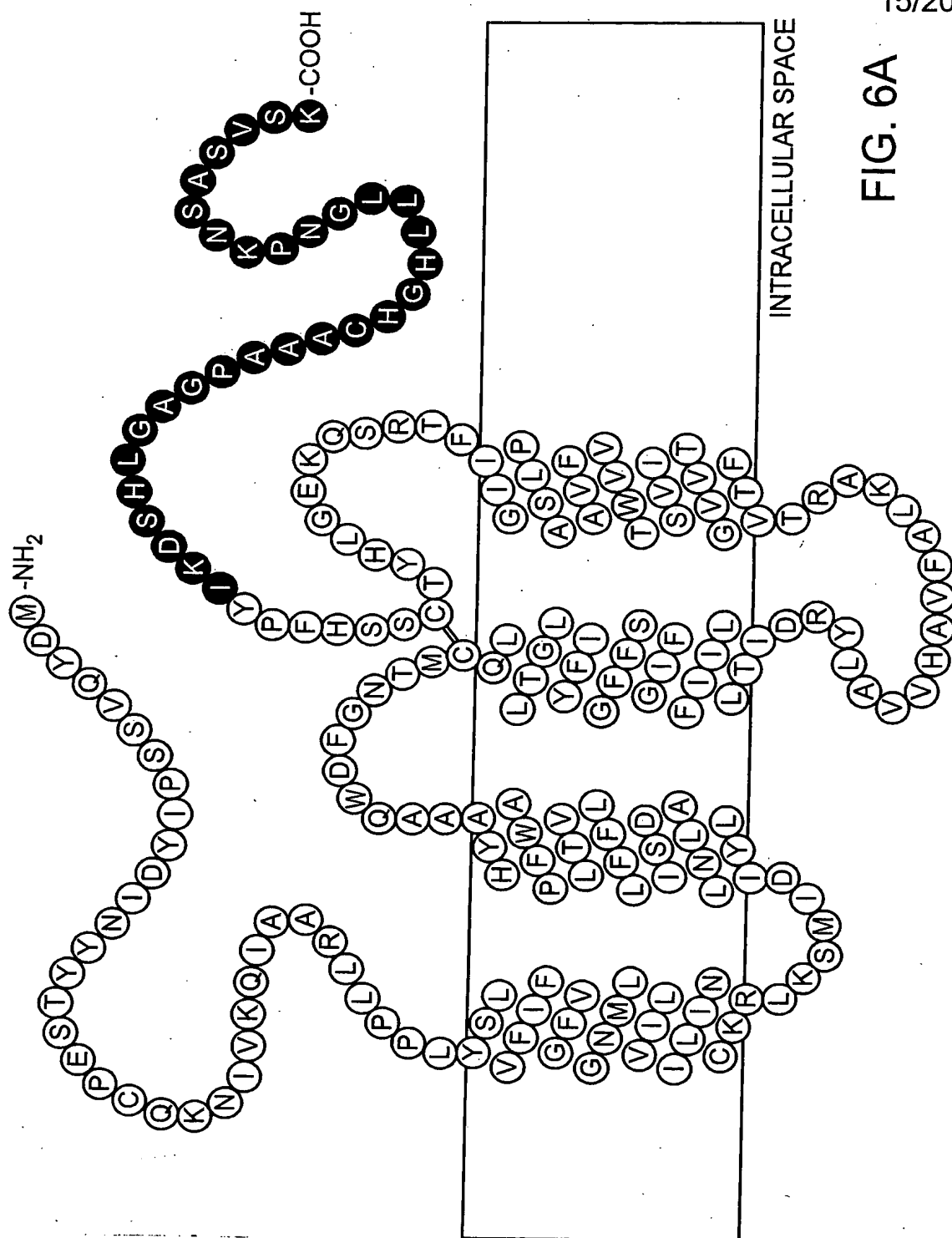


FIG. 6A

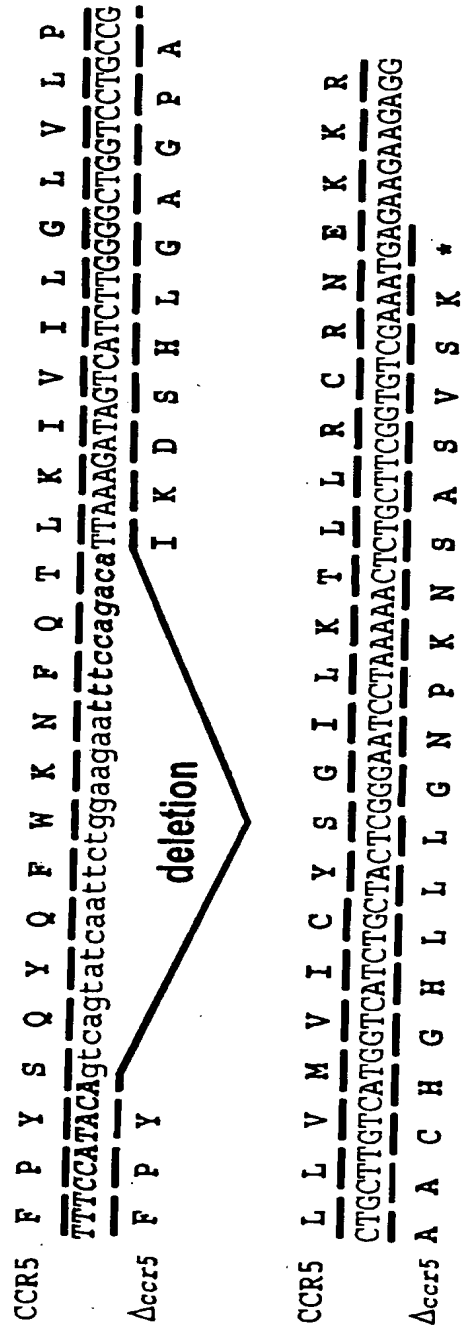


FIG. 6B



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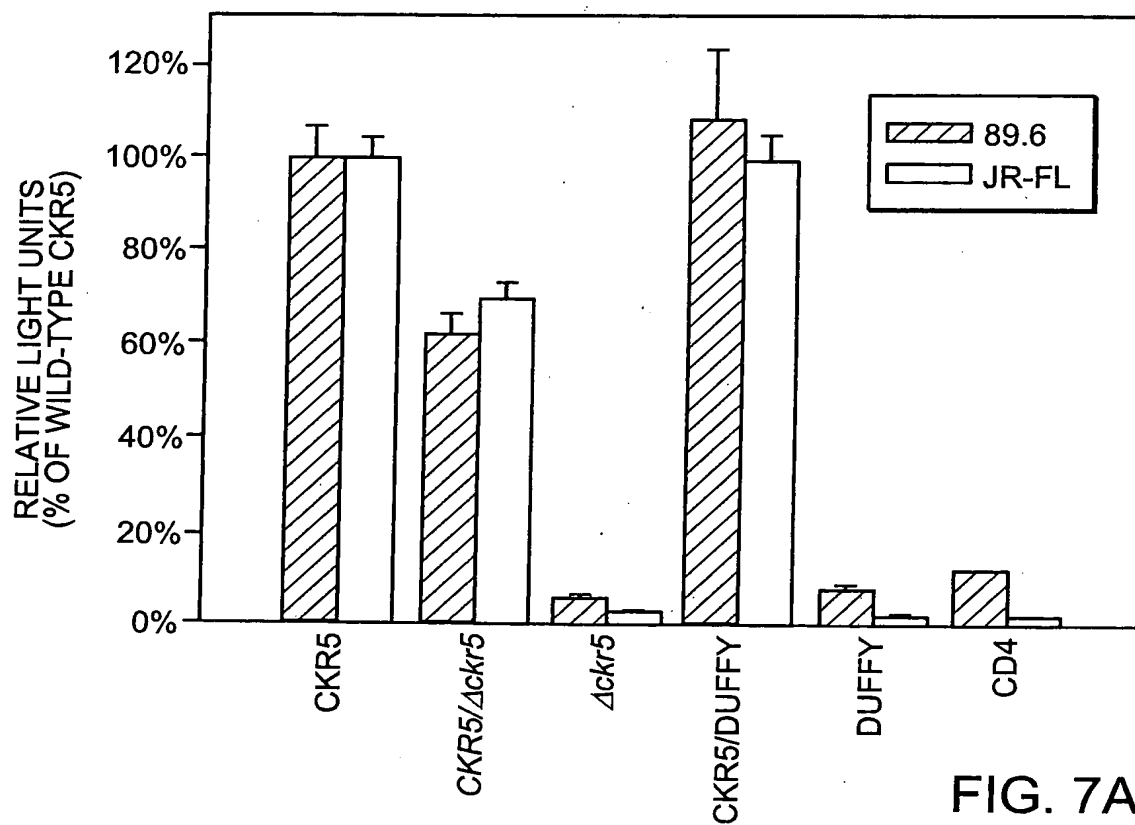


FIG. 7A

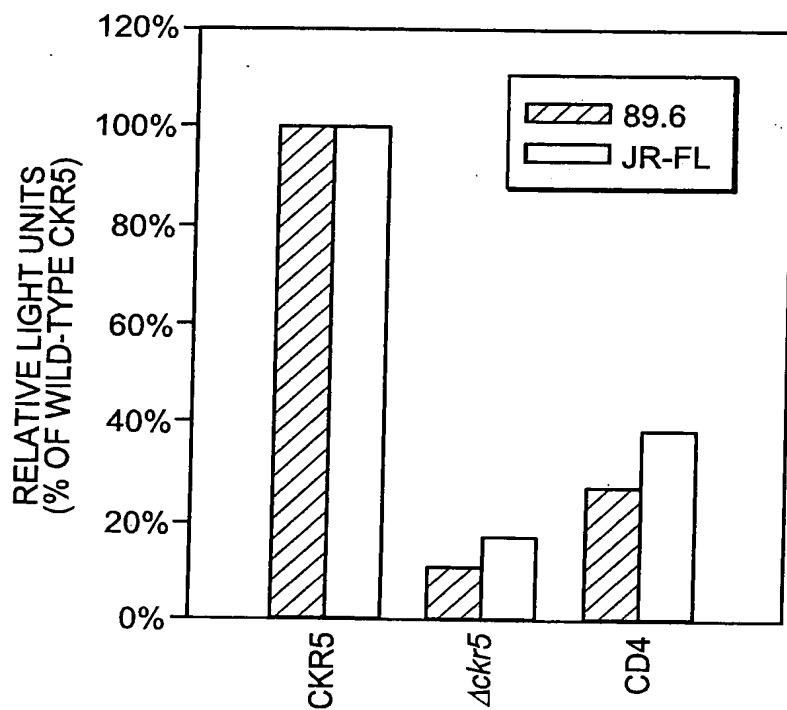


FIG. 7B

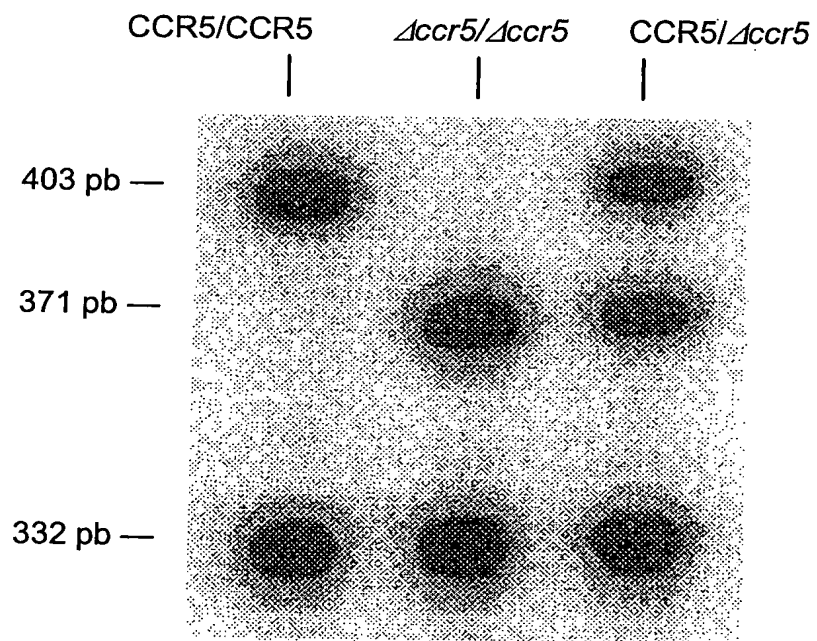
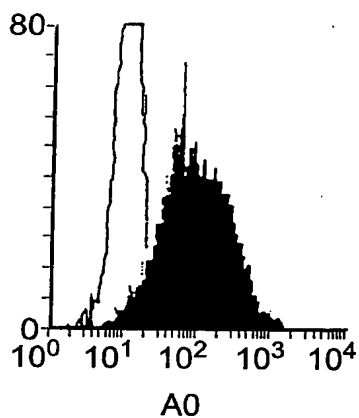
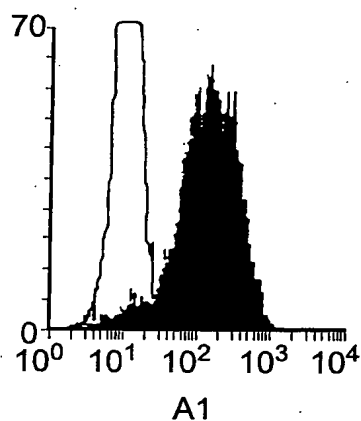


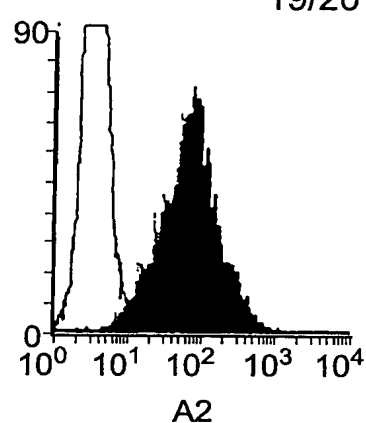
FIG. 8



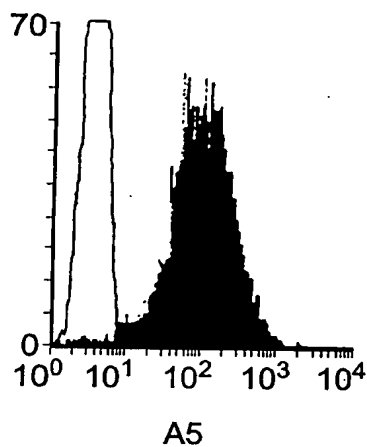
A0  
FIG. 9A



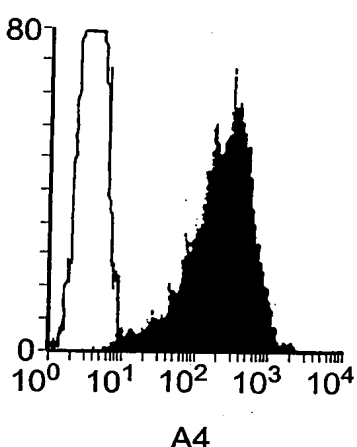
A1  
FIG. 9B



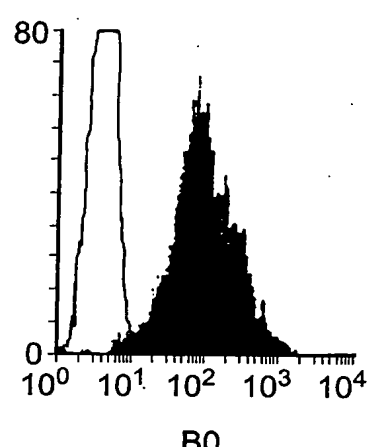
A2  
FIG. 9C



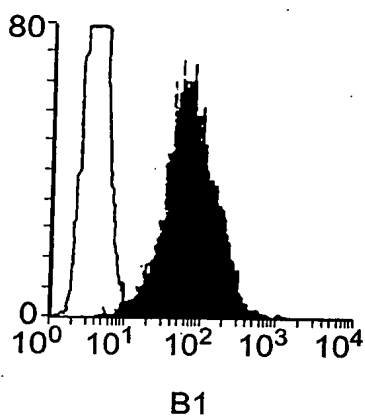
A5  
FIG. 9D



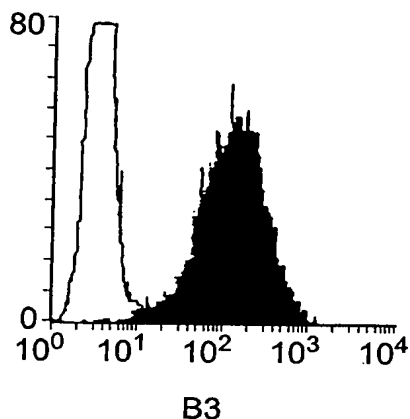
A4  
FIG. 9E



B0  
FIG. 9F



B1  
FIG. 9G



B3  
FIG. 9H

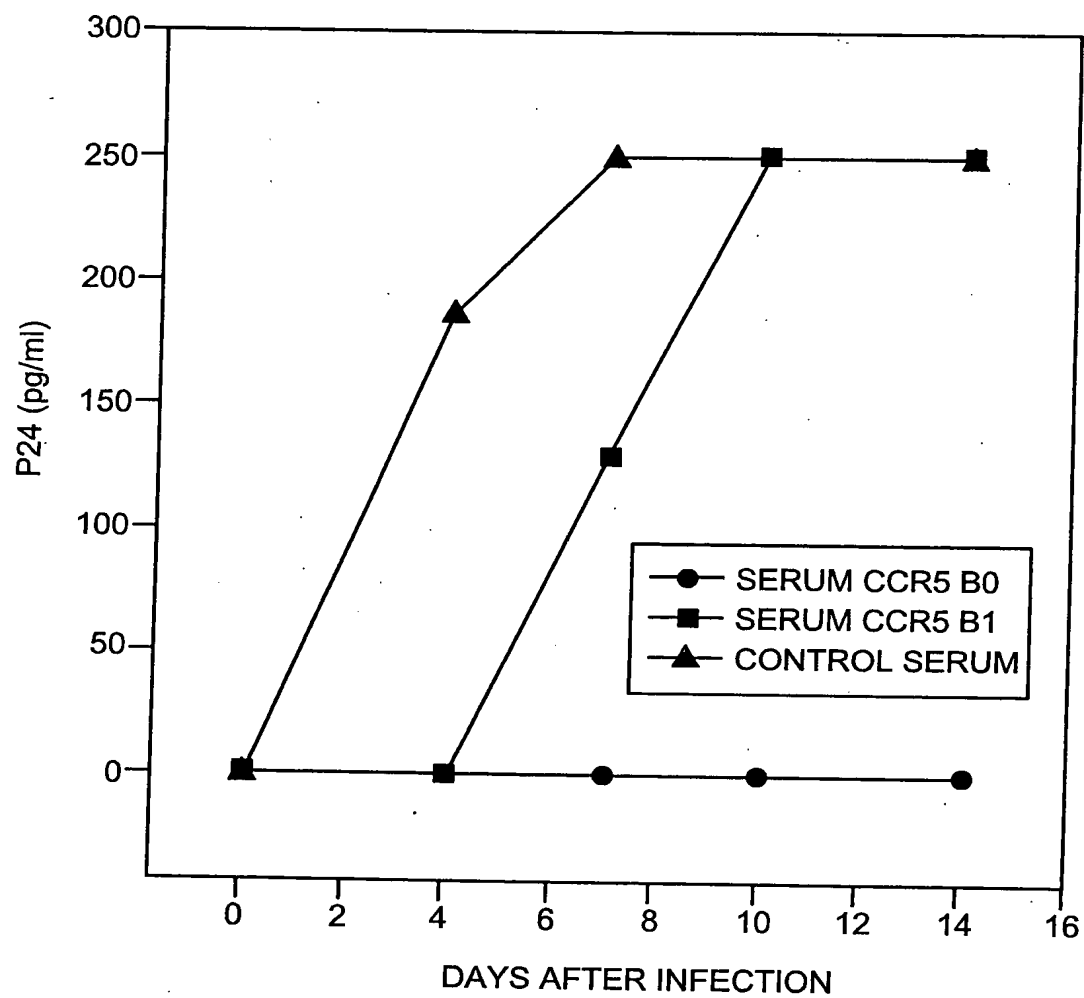


FIG. 10